REMARKS

In the final Office Action mailed December 22, 2006, the Examiner noted that claims 1-11 were pending and rejected claims 1-11. No claims have been amended, no claims have been canceled, no new claims have been added and, thus, in view of the forgoing claims 1-11 remain pending for reconsideration which is requested. No new matter has been added. The Examiner's rejections and objections are traversed below.

OBJECTIONS

The Examiner has object to informalities in claim 11. Claim 11 has been amended to recite "for display of the useless information area based on the discriminating."

Withdrawal of the objection is respectfully requested.

REJECTIONS under 35 U.S.C. § 103

Claims 1-10 stand rejected under 35 U.S.C. § 103(a) as obvious over Kodaira, U.S. Patent No. 6,868,183 in view of Schneider, U.S. Patent No. 5,229,589. The Kodaira patent discusses a method of determining the type of an image scanned in to a system. The present claims are method of digitizing a questionnaire or exam, and determining if a box of either type of document is checked off, by dividing an image in to areas of useful and useless information. Schneider discusses a method of determining whether a questionnaire has been marked by comparing the unaltered image of a questionnaire to the altered image of a questionnaire.

The Examiner indicates, in the first point of the argument, that the description "presence or absence of key regions ..." in Kodaira is enough to provide a reasonable suggestion of discriminating useful and useless information areas to one of ordinary skill in the art. Then, asserts such areas must include key regions. That is, the useful and useless information areas must include a plurality of regions. However, the present claims do not divide the useful and useless information areas into a plurality of regions.

According to the Examiner's interpretation the key regions, therefore, must be recognized before discriminating the useful and useless information areas. For this reason, the discrimination of the useful and useless information areas would be performed in at least two stages. However, the useful and useless information areas are not supposed to be recognized in such a key regionprocess. Therefore, the regions disclosed in Kodaira are different from the useful and useless information areas not only in configuration but also in the recognition processi

Further, In the final Office Action at page 3, with respect to claims 1, 5, 7 and 9, the Examiner states "Kodaira fails to explicitly teach the use of a ratio for increasing the area of the useful information." But that Schneider "discloses the use of a ratio for determining the different densities of the image in the region which include useless and useful areas." In the *Response to Arguments* the Examiner addresses the Applicant's statement in the Amendment of October 5, 2006 that the ratios of Schneider are not used to increase the area of useful information. Wherein the Examiner states:

> Schneider indicates that "questionnaires are scanned for answers handmarked thereon by **defining areas of interest which can be expanded** in an area of interest pixel map." However as described above Schnieder clearly indicates that areas can be expanded. One of ordinary skill would realize that this would mean increasing a ratio to analyze that portion of an image."

But, the areas of interest of Schneider are not expanded by use of a ratio. The areas of interest are increased by taking the coordinates of a line surrounding an area of interest and thickening the line by increasing those coordinates. See Schneider column 6 line 56 through column 7 line 6 and Fig. 5. Further to the Examiner's comment on the top of page 8 of the final Office Action the Applicant wishes to point out that the x/y coordinates cited are not a ratio but an alignment point 16 of Fig. 1 of Schneider. Therefore, it would have not been obvious to increase a ratio to analyze that portion of an image.

For the reasons stated above, Kodaira and Schneider taken separately or combination fail to teach or suggest the elements of claim 1, 5, 7 and 9 or the claims dependent therefrom.

As to claim 2, in the present and the prior Office Action, the Examiner cites Kodaira column 2 lines 5-67 as teaching:

> said area discrimination unit considers at least one direction in counting a number of pixels assumed to be used in displaying information about a document image represented by the image data, and discriminates the useful information area from the useless information area based on a counting result, as in claim 2.

But in the Examiner's *Response to Arguments* at page 8, the Examiner quotes Schneider column 4 lines 17-19 wherein in states "The pixel data contained within these areas of interest is stored … in a database" and the Examiner further states:

> information is stored and kept track of within the database and used to determine the mark therefore it is provides enough suggestion that the pixel data is counted.

The Applicant asks for clarification as to whether Kodaira or Schneider is being used as a reference as to claim 2. Further, the storage and use of data does not suggest it is counted as

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the Examiner contends. Therefore, as cited Kodaira and Schneider taken separately or combination fail to teach or suggest the elements of claim 2 or the claims dependent therefrom.

As to claim 3, Kodaira column 14, lines 40-67 discusses an image correction unit that corrects image data by use of a density conversions or filter processing. But it does not discuss thinning a line and therefore does not teach or suggest:

> when said area discrimination unit discriminates the useful information area from the useless information area based on whether or not the number of pixels counted by considering one direction is equal to or smaller than a predetermined value, said data processing unit increases a ratio of the useful information area to the entire area by performing on at least the second partial image data a process of thinning lines having the number of pixels equal to or smaller than a predetermined value in the lines in the one direction, as in claim 3.

Claim 11 stands rejected under 35 U.S.C. § 103(a) as obvious over Kodaira in view of Schneider. For at least the reasons stated above, Kodaira and Schneider taken separately or combination fail to teach or suggest "displaying at least one of a first and second partial image data obtained by increasing a ratio of useful information to an entire area by processing of the first partial image data and the second partial image data which is image data of a portion for display of the useless information area based on the discriminating," as in claim 11.

SUMMARY

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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